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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,976	06/08/2001	David M. Pepper	B-3918 617820-9	2143

7590

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EXAMINER

PETKOVSEK, DANIEL J

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 11/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,976

Applicant(s)

PEPPER, DAVID M. 

Examiner

Daniel J Petkovsek

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/2/02
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-22 and 31-43 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6 and 23 is/are rejected.
- 7) ☒ Claim(s) 4, 5, and 24-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/8/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: 

DETAILED ACTION

The Applicant's communication filed on October 2, 2002, has been carefully studied by the Examiner. The arguments advanced therein are persuasive and some of the rejections based upon prior art made of record in the previous Office Action are withdrawn. Some of applicant's claims are allowable. The 103 rejections combining Thaniyavarn '805 and Dugan et al. '475 have been withdrawn (Claims 7-12, 15-20, 31-33, and 38). Claims 7-22 and 31-43 are now allowable over the pertinent prior art. However, the examiner maintains the rejections on claims 1-3, 6, and 23 for the following reasons stated below.

Claim Objections

1. Claims 4-5, and 24-30 are objected to as being dependent upon a rejected base claim, but would be allowable over the pertinent prior art if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 6, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Thaniyavarn U.S.P. No. 5,543,805.

Thaniyavarn U.S.P. No. 5,543,805 teaches (Fig 3; column 4 line 36 through column 5 line 24) an optical system comprising the following: a laser source (Fig 3) generating an optical input, a controllable phase-array beam director (Abs. line2) for propagating optical signals through waveguides 42, for providing a plurality of output pulse signals (column 4 lines 63-65), and a control stage 44 with an electrode stage 46 to control the outputs with a common control voltage (column 4 lines 51-54). Thaniyavarn '805 teaches (column 6 lines 27-35) that the phase delay system described can be combined with a variable (controllable) time delay device such as that described in Ser. No. Aug. 08/290,201 (U.S.P. No. 5,455,878) filed August 15, 1994 for "Programmable Signal Time Delay Device Using Electro-Optic and Passive Waveguide Circuits on Planar Substrates". The disclosure of Thaniyavarn '878 was to be considered fully as an inclusive reference to Thaniyavarn '805 in the previous office action. As the controllable delay device disclosed by Thaniyavarn '878 relates to a switching array (Abs., lines 2-7) of optical signals, it inherently includes the utility to control the time-delay of a plurality of pulse streams. The delay structure of '878 is disposed/coupled at the incoming input signal as shown in Fig 1. The addition of the variable time-delay device coupled to the optical input source, as stated in column 6 lines 27-35, to the phased-array delay device of '805 discloses a controllable delay structure coupled to an optical source which provides a plurality of output streams, each streams having a controllable, relative delay.

Regarding claim 2, the beam-controlling device of Thaniyavarn '805 would inherently include an array of optical apertures related to each controlled output signal as in figure 3. Figure 3 shows a number of outputs from the device. Regarding claim 3, the outputs of the device of Thaniyavarn '805 are steer-able (column 4 lines 25-27). Regarding claim 6, the optical

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element comprises a laser (Fig. 3). Regarding claim 23, the device taught by Thaniyavarn '805 comprising each component claimed by Applicant would inherently include the method limitations as claimed.

Conclusion

4, Applicant's arguments filed October 2, 2002 have been fully considered. Rejections upon claims 5, 7-12, 15-20, 24-27, 31-33, and 38 have been respectfully withdrawn. Rejections upon claims 1-3, 6, and 23 remain.

Applicant traverses the rejection of independent claim 1 (and subsequent method claim 23) by asserting that the Thaniyavarn reference fails to disclose, "a controllable optical delay structure providing a plurality of output optical pulse streams, each output optical pulse stream having a controllable time delay relative to the input optical pulse stream." This argument has been fully addressed in the rejection(s) of claims 1 and 23, and is not persuasive.

With regard to the rejection of dependent claims 2 and 3, Applicant argues that the Thaniyavarn reference fails to disclose a device, "comprising an array of (steer-able) optical apertures." This argument has been fully addressed in the rejection(s) of claims 2 and 3 above, and is not persuasive.

With regard to the rejection of the dependent claim 6, Applicant argues that, "Claim 6 is patentable over Thaniyavarn at least based upon its indirect dependence on Claim 1." This argument has been fully addressed in the rejection of claim 6 above, and is not persuasive.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art document submitted by Applicant in the Information Disclosure Statements filed on 10/9/2001, has been considered and made of record (note attached copy of forms PTO-1449)

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Labaar U.S.P. No. 5,272,484 discloses a system for true time delays for pulsed signals to introduce variable delays in signal paths.

Gesell et al. U.S.P. No. 5,623,360 discloses time delay beam formation and beam steering using optical modulators.

Thaniyavarn U.S.P. No. 5,455,878 discloses an electro-optically active device for programmable signal time delay in planar substrates.


Dillman U.S.P. No. 6,310,831 discloses a device for aperture adjustment in steered phased array transducer systems.

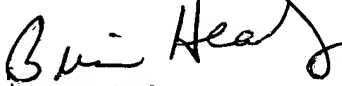
Keene et al. U.S.P. No. 4,813,766 discloses an apparatus for optical time delay.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (703) 305-6919. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9321.


Daniel Petkovsek
November 8, 2002


Brian Healy
Primary Examiner